

Abstract of the Disclosure

A recombinant protein comprised of an amino acid sequence of a motor protein, a target protein of interest, and optionally, a linker sequence between the two proteins, is disclosed. Also disclosed are a DNA sequence encoding such a recombinant protein, a vector expressing such a recombinant protein, a host cell transformed with such a vector, a method for producing such a recombinant protein, and methods for purification, crystallization and structure elucidation of such a recombinant protein. In preferred embodiments of the invention, the motor protein is a member of the kinesin or myosin superfamilies, or an analog, fragment or derivative thereof.